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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,037	03/22/2004	David E. Ludwig	ISC-126A	1014

7590

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EXAMINER

RATCLIFFE, LUKE D

ART UNIT

PAPER NUMBER

3662

DATE MAILED: 05/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/806,037	LUDWIG ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Luke D. Ratcliffe	3662	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 March 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2 and 4-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-9 and 12-14 is/are rejected.
- 7) ☒ Claim(s) 2,4,5,10 and 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 4/31/04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 9, 4, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Burt (6444968).**

Referring to **claim 9**, Burt shows a photon detector module with a photon detector array (figure 1 Ref 2), a plurality of readout electronics integrated chips with a plurality of channels for receiving and processing the output signals (figure 1 Ref 3), a plurality of readout electronics integrated circuit chips are arranged in a stacked configuration (figure 1 Ref 3), and the photon detector array is bonded to the stacked configuration (figure 1).

Referring to **claim 4**, Burt shows a value that is a digitized one bit digital value (figures 2-3).

Referring to **claim 13**, Burt shows a plurality of readout electronics that are thinned (figure 1).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 12 and 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Burt (6444968).**

Referring to **claim 12**, it would be obvious to make the plurality of connections arranged on the lateral surface of the stacked configuration with T-connects because this is a common means for making connections and adds no new or unexpected results.

Referring to **claim 14**, it would be obvious to connect the plurality of readout electronics with an adhesive because this is a well known method of connecting stacked chips and adds no new or unexpected results.

**Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burt (6444968) in view Yang (5214274).**

Referring to **claims 6 and 7**, Burt shows a photon detector module with a photon detector array (figure 1 Ref 2), a plurality of readout electronics integrated chips with a plurality of channels for receiving and processing the output signals (figure 1 Ref 3), a plurality of readout electronics integrated circuit chips are arranged in a stacked configuration (figure 1 Ref 3), and the photon detector array is bonded to the stacked configuration (figure 1). However Burt does not show a detector array that is 128x128 pixels.

Yang shows a detector array that is 128x128 pixels (column 2 lines 7-15). It would have been obvious to further modify Schmitz to include the detector array taught by Yang because this is a common configuration of a detector array and has no new or unexpected results.

**Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Burt (6444968) further in view Burns (5953110).**

Burt shows a photon detector module with a photon detector array (figure 1 Ref 2), a plurality of readout electronics integrated chips with a plurality of channels for receiving and processing the output signals (figure 1 Ref 3), a plurality of readout electronics integrated circuit chips are arranged in a stacked configuration (figure 1 Ref 3), and the photon detector array is bonded to the stacked configuration (figure 1). However Burt does not show an InGaAs detector array.

Burns shows an InGaAs detector array (column 2 lines 5-27). It would have been obvious to further modify Schmitz to include the InGaAs detector array taught by Burns because this is a common detector array and has no new or unexpected results.

***Allowable Subject Matter***

Claims 2, 4, 5, 10, and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

Applicant's arguments with respect to claims 4, 6-8, 9, and 12-13 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luke D. Ratcliffe whose telephone number is 571-272-3110. The examiner can normally be reached on 8:00-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LDR

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